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CENTRAL INTELLIGENCE AGENCY

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COUNTRY

East Germany

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East German Crystal Structure
Research and Development

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SUPPLEMENT TO
REPORT NO.

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1. The following are the research and development projects which have been assigned to the Department for Crystal Structure Analysis of the Academy Institute for Medicine and Biology in Berlin-Dach:

a. Development of an electro-mechanical analog machine for carrying out two-dimensional Fourier syntheses.

Specifications for this project read: 1) Two-dimensional Fourier syntheses whose results can be made visible within a few minutes as altitude layer lines on the screen of a Braun tube and which can be photographed. 2) It takes several months to evaluate numerically the results without the aid of an analog machine as proposed.

The development began in late 1951 and is still in progress. Dr. Kaethe Dornberger Department head, is in charge of scientific supervision. Walter Troisch was charged with the construction of a model after Viktor Szekular, formerly in charge of construction, defected to the West in June 1953.

b. Further development of apparatus and equipment for crystal structure analysis.

Specification: Research Project No. F3-501 is to be continued. An X-ray camera for crystal structure analysis, which has already been developed, is to be improved; its accessories are to be completed.

The development started in 1950, with Kaethe Dornberger as scientific supervisor and Bernhard Trzcynski in charge of construction. Two versions of an X-ray camera are completed; a third improved version is now in development. 1/

c. X-ray structure analysis of diortas.

Specification: Evaluation of crystal photographs according to well-known methods.

The project, which is supervised by Hans-Guenther Heide, started in 1951 and is still in progress.

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d. X-ray structure analysis of chamazulen.

Specifications: 1) X-ray investigation of additive compounds of chamazulen with pieryl-chloride in a crystal state. 2) Carrying out of crystal structure analysis.

The project started early in 1953. It is under the supervision of Karl-Heinz Jost, who is assisted by Professor Friedrich Jung of the Department for Pharmacology and Experimental Pathology of the Institute.

e. Electron density distribution in cadmium sulfide and other semi-conductors.

Specification: Carrying out of the necessary fundamental research. Research, which is supervised by Krumbiegel (fnu), began in 1953.

f. Structure analysis of various organic substances.

Specifications: 1) Investigation of organic substances with X-rays. 2) Photographs of monocrystals; Patterson and Fourier syntheses.

Research is to start early in 1954. No personnel has been assigned as yet.

g. Investigation of tri-phenyl-pyrazolines; study of the influence upon the crystal structure and electron density distribution caused by various substitutions

Specifications: 1) Structure analysis of a number of tri-phenyl-pyrazolines. 2) Investigation of conjugated double compounds; X-ray structure analysis. Research is to start early in 1954. No personnel has been assigned as yet.

2. The Department for Scientific-Technical Cooperation (Wissenschaftlich-Technische Zusammenarbeit) (WTZ) of the State Planning Commission 2/ notified the Institute for Medicine and Biology that WTZ had undertaken steps to secure Russian cooperation for carrying out project (a) mentioned above. No such cooperation has been forthcoming so far, however. WTZ also applied for Czech cooperation in connection with project (b), also without results so far. Project (c) has attracted the attention of Russian Professors Dutusow (fnu) and Bielow (fnu) of the Crystallographic Institute of the Russian Academy of Sciences. 3/ The two scientists have written letters in which they inquired about the progress of the project; they have also sent Russian literature pertaining to the subject of the research project.

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1/ Cf. [REDACTED]

- 25X1A 2/ [REDACTED] Comment. The Department belonged to the Central Office for Research and Technology (ZAFI) until spring 1953, when it was placed under the direct jurisdiction of the State Planning Commission.

- 25X1A 3/ [REDACTED] Comment. Apparently identical with the following two persons listed in Soviet Men of Science:
 a. Vladimir I. Dutuzov, member of the Russian Academy of Sciences
 b. Nikolay Vasilyevich Bielov, member of the Russian Academy of Sciences.

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